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ABSTRACT

Highlights of a career education program for the elementary grades in New Jersey, entitled Technology for Children (T4C), are presented separately for the years 1969, 1970, and 1971. A systems approach was utilized to integrate this comprehensive program into New Jersey schools, focusing on its urban areas. Preliminary program planning and development in Parkside School in Camden City, involving an administration team and teams for teacher training and curriculum development, led to implementation of pilot career education programs in three cities. Program evaluation has involved five phases, the first two of which are nearly complete: (1) collecting background data on student characteristics, (2) measurement of students' self-concepts and school attitudes by means of achievement tests, (3) analyzing students' perceptions of school and work, (4) analyzing changes in standardized test scores as part of an ongoing testing program, and (5) readministering Phase 2 instruments in May 1972 to classes selected at random. Photographs illustrate the leaflet and several tables present the data. A program summarization and evaluation, including educational objectives, complete the program description. (AG)

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TECHNOLOGY FOR CHILDREN

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A Three-Year Narrative Report of Technology for Children . . . . . January 1, 1969 to December 1, 1971

SPECIAL PAPER

JULY 1972

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PREFACE

Technology for Children (T4C), in its sixth year of existence, was initiated in New Jersey by Dr. Robert M. Worthington, Assistant Commissioner, Division of Vocational Education, and was implemented by the utilization of State and Federal funds cooperatively with an initial Ford Foundation grant of $166,000, under the directorship of Elizabeth E. Hunt. In September, 1968, Dr. Fred J. Dreves, Jr., assumed the administration of T4C, with the assistance of Dr. Kenn Charlesworth, Associate Director and Mr. Richard B. Harnack, Assistant Director. In addition, there are three Research Associates, Miss Mary Ann McEnroe, Mr. Laddie A. Gribick, and Mr. Wesley Perusek, and one Research Assistant, Mr. Paul Stein, assigned to T4C. Technology for Children is operationally situated in the Bureau of Occupational Research Development - Mr. Harold Seltzer - Director, under the leadership of - Dr. Morton Margules - Associate State Director - Ancillary Services.

In 1966, the Division of Vocational Education of the New Jersey State Department of Education began a systematic approach to career education from Kindergarten through Grade 12. One of the first steps in the development of comprehensive program was the creation of T4C. The primary objective of T4C was to enhance the learning process at the elementary level by introducing tools and technological activities into the classroom, and to provide elementary school children with a better understanding and appreciation of their future career role. In order to launch T4C, it was determined that the elementary classroom teachers of New Jersey had to be assisted to implement technological activities in their classrooms and also had to develop competency in integrating career educational activities with general learning experiences.

During the summers of 1966-1968, the T4C staff conducted six-week summer training institutes for elementary classroom teachers. The institutes served as demonstration centers tor T4C activities and were exemplified by four classrooms of children actually involved in technological and career education activities which complemented and supplemented their regular academic learning.

By 1969, Technology for Children was operative in half of New Jersey's counties in thirty-two elementary schools, with one hundred and fourteen teachers implementing technological and career education activities involving twenty-eight hundred New Jersey Children. These children were encouraged to THINK and DO. The first step to comprehensive career education in New Jersey had thus been taken.

A THREE-YEAR NARRATIVE REPORT – 1969-1971

On March 14, 1969, Technology for Children received notice of a second three-year Ford Foundation grant in the amount of $303,460. The primary purpose of the grant was the increased development of the Technology for Children concept with special emphasis on expansion in New Jersey's urban areas as well as continued expansion into each of New Jersey's twenty-one counties.

Total System Commitment –

It was determined that the best approach to integrate this new aspect into the New Jersey elementary school education and the only feasible plan of action for expansion was to bring about the change "within the system." Observation of the ephemeral existence of many projects led to the conclusion that lasting change could only be achieved if the school or the school district was totally committed to change and actually embarked on a planned program to bring it about.

The staff of T4C set about this ambitious campaign by securing an Education Professions Development Act grant which was designed to provide in-service training resulting in better staff utilization, and which would in effect enable the T4C staff to extend its arms and spread almost limitlessly. Total system commitment, which is referred to by some as SYSCO (System Commitment), was initiated by the inclusion of local administrators in the training plan. These administrators (generally the elementary school principals), with a nucleus of teachers, were urged to cooperate with one another to form strong viable cohesive units.

Each T4C unit becomes a self-sufficient operational entity. The "T4C Supervisor," as these people agreed to be called, afforded the group with the administrative sanction necessary to effect the changes. Old requirements that stifle innovative practices must be relaxed and teachers encouraged to unstructure the classroom learning environment. The classrooms of these teachers become less traditional and more activity-oriented. Individualized teaching-learning becomes an actuality.

In recognition of the importance of the "feedback" principle to good learning T4C teachers are encouraged to teach their pupils to maintain a record of their experiences in an Individual Pupil Log.

Each child- learner records in his log his plans, expectations, actions, achievements and successes. He also records inabilities or non-successes, but seldom sees these as failures, because of the constant emphasis on the more positive learnings.

Teachers respond in an intimate and personal manner in each log once a day, two or three times a week, or however often they deem necessary. The log is not "corrected" nor is it "graded." It becomes the medium, whereby, each child gets his fair share of the teacher's time – he really participates in individualized teaching-learning.

To further assist the teachers and to aid in training new T4C teachers, the T4C staff in cooperation with experienced practitioners prepared forty-seven instructional units for use as curriculum models. These "Episodes," as they were called, provided necessary directions for the successful introduction and implementation of selected technological activities into the classroom.

Each "Episode" provided for flexibility and suggested alternates or options for the consideration of both teacher and children. They were originally designed to be utilized in one of the major academic subject-matter areas of language arts, mathematics, science, or social studies. However, as they were employed by the T4C teachers, it became apparent that this arbitrary designation was only nominal. In actual practice, the more effective the teacher becomes in implementing T4C, the more the "Episodes" become only sources of ideas. Most teachers prefer to implement activities even more informally than had been described.

In order to make an immediate impact in New Jersey's urban areas, it was determined that "total commitment" must include an entire school. Thus, in the spring of 1970, plans were made in cooperation with Camden City schools to designate Parkside School as the first to implement T4C objectives. Subsequently, in a five-week workshop, held during the summer, the principal and all his teachers were assisted in initiating T4C with some of the children. In the fall, all classes functioned as T4C programs – child-centered, activity-oriented, individualized teacher-learning situations.

The school commitment was expanded by the formation of three teams representative of the total educational community, namely, those of Administration, Teachers and Curriculum.

1. The Administration Team consists of those administrative representatives necessary for a total commitment. At the school district level, this includes the superintendent, the board of education, pupil personnel services and teachers. At the individual school level, representation is as comprehensive as possible with the team working to achieve a total district commitment. This team is concerned with the overall management of T4C and seeks to expand it in both quantity and quality to benefit each individual student. In the interests of accountability, this team controls and reports the costs and evaluates the effectiveness of T4C. It is responsible for the direction of T4C and develops one and five-year plans of implementation.

2. The Teacher-Training Team concerns itself with all problems relative to the teacher. This team ,or a committee thereof, is responsible for the teacher-training program. First, it conducts a three-day released time orientation to assist teachers to initiate T4C in their

HIGHLIGHTS OF 1969

JANUARY A fifteen-week graduate credit course was offered cooperatively by the State Department of Education and Trenton State College in Technology for Children.

The first video-tape equipment was made available to the children in twelve Technology for Children classrooms in the State.

MARCH On March 14, 1969, the Technology for Children Project received notice of a second, three-year Ford Foundation grant in the amount of $303,460.00.

JUNE Forty-seven "Episodes" or units of technological activities were prepared as curriculum guides.

JULY AUGUST The fourth summer training institute was conducted at Stokes School in Trenton for twenty-four elementary classroom teachers. This was the first institute in an inner-city school.

OCTOBER Miss Virginia Simonson, a third grade project teacher in Grant School in Trenton, New Jersey was an award winner in the *Instructor* magazine, "Best Reports Contest." Miss Simonson's article was entitled, "The Technology for Children Project in my Classroom."

NOVEMBER Thirty-seven elementary classroom teachers from thirteen school districts in twelve New Jersey counties attended a three-day release time workshop at the Technology for Children Annex in Florence, New Jersey.

Dr. Fred J. Dreves, Jr., represented the Technology for Children Project in Atlanta, Georgia at the first of three national sessions of the National Conference on Elementary Industrial Arts.

DECEMBER Mr. Richard Harnack presented a paper entitled, "Implementation of the Technology for Children Project," at the American Vocational Association Annual Convention in Boston, Massachusetts on December 7, 1969.

classrooms. To date, eight "supervisors" have been assisted in conducting orientation sessions for their own teachers and those of nearby districts. Richard Harnack, Assistant Director of T4C, has worked with them and provided them with a training manual which was developed over the years. After the teachers' orientation, they are provided in-service, on-the-job training to sustain them in a more effective implementation of T4C.

3. The Curriculum-Development Team concerns itself with all curricular matters, always with the welfare of the individual pupil in position of top priority.

As was mentioned previously, part of the operation of T4C is to help each child maintain a record of his plans, actions and achievements in an Individual Pupil Log in order to provide him individualized feedback for his learning. The teacher utilizes this log for two additional purposes, namely: (1) to make a more intelligent and specific report on each individual pupil (this is the ***accountability*** intended by the behavioral objectivists), and (2) to furnish pertinent input data for the use of the Curriculum-Development Team.

As the team studies the logs, reports or abstracts on them, they are in a position to recommend certain activities for certain general grade levels. However, keeping in mind that jobs now existent need not necessarily be pertinent to the next generation, the team is urged to always place the emphasis on the most effective personal development of the individual. Less attention should be given to teaching him, since present methods fail to give half of the students between 5th and 12th grades a comprehensive coverage of present career occupations. More attention should be given to the best of self-awareness and less attention devoted to program development.

This approach is taken because of the firm conviction that the majority of elementary teachers are not nearly as concerned with career education nor science nor math as they are with language arts and social studies. Since they alone are the teachers of elementary school children, there is little choice but work with them if change is to come about "within the system." Excellent results are achieved by "piggy-backing" small concrete experiences of a career educational nature onto the activities they are anxious to bring before their pupils in the interests of better achievement in the basic areas of traditional education.

4. Community-Business Team – during the sessions of the above teams, representatives of the business, industrial, world-of-work community will relate and react to the Technology for Children Development.

Career Development –

The success of this program helped to persuade Governor William T. Cahill to sign into Legislation, House Bill 1254, which implemented Career Education in the three pilot cities of Camden, New Brunswick and Rahway. Passage of the Bill enabled the staff of T4C to train the entire faculties of Livingston School in New Brunswick and Madison School in Rahway. The program was an initial success and its funding was renewed for a second year.

Dr. Elaine House of Rutgers University coordinated the evaluation of the Technology for Children Program in the three pilot career develop cities. Dr. House reports:

Evaluation was planned in five phases, the first two of which are nearly complete.

Phase 1

LEA's were asked to provide data concerning the groups involved: the number and size of classes in each school (Parkside, Livingston and Madison); names of teachers and amount of special training received. In addition, composition of the classes according to the following variables:

1. IQ (if available)
2. Achievement (1970-1 scores) on standardized tests
3. Attendance 1970-1
4. Socio-economic status
5. Race or ethnic background

Also, LEA's were requested to provide two or more elementary schools in the same city where classes compared on the variables listed above, and a means of entree into the schools.

There are some extraneous factors that are of great importance to professional educators, as well as to parents. For example, what is the incidence of absenteeism of students in Technology for Children classes compared to others?

Compare the absences of children in Technology for Children classes being evaluated with the remainder of the classes in the school. What is the incidence of disruption in Technology for Children classes compared to others? What is the incidence of lack of interest or not working up to expectation? Also, compared to others. Lastly, what do the parents think of Technology for Children for their child? Results of this evaluation will be published in July 1972.

Phase 2

This phase involved administration of exploratory instruments. It was decided to eliminate kindergarten pupils from testing, due to large number of classes and the shortness of the school day. The instruments measure self-concept, attitudes toward school and occupational cognizance, and are described below.

Self-concept:

1. **Self-appraisal Inventory (Intermediate level** – Grades 4, 5)
   Students will display positive self-concepts by their total or sub-scale scores on this self-report measure requiring agreement-responses to a series of statements dealing with self-concept along four dimensions: (a) general; (b) family; (c) peer; and (d) scholastic.
2. **What Would You Do? (Intermediate level** – Grades 4, 5)
   Students will display self-concepts by their responses to this instrument, which poses a series of hypothetical questions and alternative actions. Certain of the actions are consistent with behavior of one who has a positive self-concept, while others are associated with the behavior of someone who has a negative self-concept. Dimensions are: (a) need to accommodate; (b) expectations of acceptance; (c) courage to express opinions; (d) willingness to participate; and (e) expectation of success.

Attitudes toward school:

1. **School Sentiment Index (Primary level** – Grades 1, 3)
   A direct self-report instrument in which students will exhibit favorable attitudes toward school in general and several dimensions of school: (a) teacher; (b) peer relationships; (c) social structure and climate; and (d) school subjects.
2. **A Picture Choice (Primary level** – Grades 2, 3)
   Students indicate relative-preferences for five subject areas; (a) language arts - i.e., spelling, writing, etc.; (b) science; (c) mathematics; (d) aesthetics - art, music; and (e) reading. When given sets of three verbal descriptions of classroom activities associated with specific subject areas, students mark one of the pictures to indicate in which activity they would most like to participate.

   Occupational Cognizance (Form 4-B) (Grades 4, 5)
   A twelve-item, multiple choice test which provides a measure of specific knowledge about occupations.

The self-concept measures will be analyzed in conjunction with achievement test data. Grades 4 and 5 were selected, since those are the grades most likely to have achievement test scores. Attitudes toward school measures will be analyzed in conjunction with attendance data for grades 1 through 3. Occupational cognizance will be compared in T4C and Non T4C groups, and data may also be compared with scores available from other states. (Scores on this measure are also available for Grade 4 Parkside, Livingston and Madison Schools.)

Districts were given the option of administering the instruments themselves or having the evaluation team visit each classroom – the one stipulation being that there should be a uniform procedure within the district. The second alternative is preferable, in that testing bias is reduced. However, it is more time-consuming and thus more costly. One district opted for teacher administration and the other two requested that the evaluation team do the testing.

Tests had been duplicated and collected by mid-December 1971. It was not until the end of January that the final details on administration had been worked out in one of the cities. (Since T4C was delayed in getting operational in this city, the lag in evaluation is not considered a serious impediment to evaluation.) Table 2 summarizes instruments used, by grade, testing time required (estimated), and date administered (or projected).

Table 2

Instruments used, by grade, estimated testing time and date of administration

Governor Cahill's Career Development Program, 1971-72

Instrument	Grades	Time
Self-Appraisal Inventory	4, 5	30 min.
What Would You Do?	4, 5	15 min.
Occupational Cognizance Inventory	4, 5	15 min.
A Picture Choice	2, 3	20 min.
School Sentiment Index	1, 3	15 min.

Phase 3

Phase 3 will examine children's perceptions – of school, and possibly of work. It will involve children in grades K-5 in all schools and will require about one hour from the school day. Precise details have not been worked out as yet but it may be said that children will be asked to draw one or two pictures which will be analyzed in two or three dimensions.

Originally, it was anticipated that Phase 3 would take place in mid-February, 1972. The date has been revised to mid-March due to unanticipated delay in completing Phase 2.

HIGHLIGHTS OF 1970

JANUARY The Technology for Children Project received the Medal of Achievement Award from the Aerospace Education Foundation. The Medal of Achievement was presented at the Aerospace Education Foundation's National Laboratory for the Advancement of Education in Washington, D.C. on January 26-28, 1970. The Project operated a demonstration Classroom throughout the conference.

APRIL The first annual Technology for Children Spring Conference was held at the New Jersey Residential Manpower Training Center in Edison, New Jersey.

JUNE JULY The Project staff conducted a five-week teacher preparation institute for the entire teaching staff of Parkside Elementary School in Camden, New Jersey.

AUGUST The Project staff conducted a one-week institute to prepare district supervisory personnel to serve as T4C district-wide supervisor. Twenty-two supervisors participated in the training session made possible by an Education Professions Development Act Grant in cooperation with the U.S. Office of Education.

SEPTEMBER The cover story of the New Jersey Education Association monthly magazine was, "Technology for Children."

OCTOBER Governor William T. Cahill signed into Legislation a Bill designed to implement career development vocational education in three pilot cities of Camden, New Brunswick and Rahway. The passage of the Bill permitted the staff to train the entire faculties of Livingston School in New Brunswick and Madison School in Rahway, and to further the implementation in Parkside School in Camden. T4C became the beginning phase of a pre-school to adult career development vocational education pilot project.

NOVEMBER One hundred and ten teachers were trained at a three-day released time workshop at a demonstration center in South Bound Brook, New Jersey.

DECEMBER Dr. Carl L. Marburger, Commissioner of Education, New Jersey State Department of Education visits the Technology for Children classroom in Robert Morris School in South Bound Brook, New Jersey.

Phase 4

This phase is concerned with the analysis of 1970-71 and 1971-72 raw scores on standardized tests. The emphasis is on *change* and not on grade equivalents. The intent is to use data gathered by the districts as part of their on-going testing program. It seemed ill-advised to disrupt a district-wide program of long standing. All three districts have promised cooperation in sharing test results.

The LEA's were requested to administer the Social Studies and Science batteries from the Stanford Achievement Tests to grades 4 and 5, either as a part of their regular testing program or at a date to be determined (probably mid-April). Cooperation has been assured and the tests have been ordered.

Phase 5

The instruments administered in Phase 2 will be readministered to some classes, selected on a random basis, in mid-May 1972.

In 1970, the Division of Vocational Education, N.J. State Department of Education funded a grant to establish a district-wide Career Development Center in Hackensack, New Jersey. Technology for Children trained two Hackensack elementary teachers to participate in the program. In the fall of 1971, Hackensack was designated one of six districts in the nation by the United States Office of Education and the Ohio State University Center to develop school-based models of comprehensive career education.

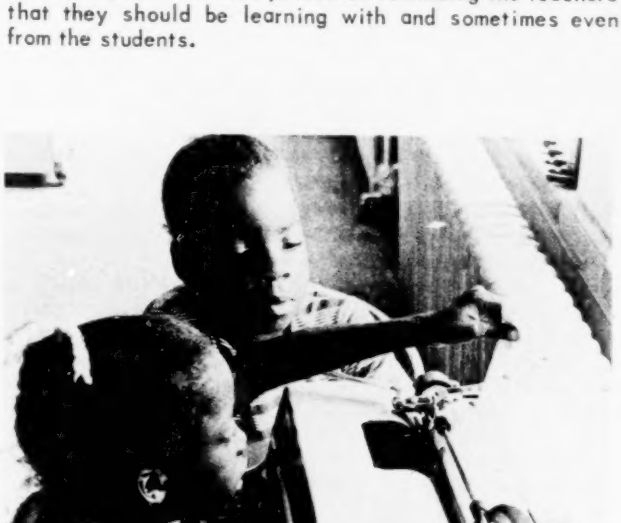
The plan to move to total system commitment has been quite effective. The teacher-training teams of 27 schools cooperated during the fall of 1971 to conduct eight three-day released time teacher-training orientation sessions, which enabled 217 teachers to implement T4C. Of course, at the same time, the staff of T4C conducted its regular program for those as yet unable to conduct their own orientation, thereby training another 186 teachers.

Teacher training is a two-part operation including both orientation and on-the-job training (O.J.T.). In the orientation sessions, a teacher candidate selects two or three areas of choice and proceeds to develop competence and confidence. These areas become the activities the teacher will use to initiate T4C to his class when he completes his orientation.

Since the breadth and depth of technology is so vast and complex, the intent of T4C is not to accomplish comprehensive coverage, but rather to consider those areas that seem most propitious and appealing to the teacher and pupils.

The objective of the individual T4C teacher is to help each pupil develop a way of studying or a mode of operating with technology. In brief, the teacher is urged not to try to teach technology so much as to help each child to learn about various specific technologies.

The orientation helps the teacher-candidates to start, and the O.J.T. sessions supply them with regular input designed to sustain their implementation. In these sessions, teachers grow by sharing ideas and experiences with one another. In addition to the acquisition of new ideas, emphasis is also placed on reminding the teachers that they should be learning with and sometimes even from the students.



Presently, O.J.T. is taking the form of college courses offered by three New Jersey State colleges and taught by experienced T4C practitioners – three T4C staff members and seven local school "supervisors."

Evaluation –

In August 1971, Technology for Children participants received a memorandum from Dr. Fred J. Dreves, Director entitled, "Design for Evaluation of Technology for Children." Some excerpts from that memo follow.

A look into the classrooms of New Jersey elementary schools discloses teachers using Technology for Children as the basis for a process that makes learning fun-filled, game-like and personally interesting. One sees children engaged in business enterprises, manufacturing techniques and simulated aero-space and oceanographic expeditions; children at work alone and in small groups discovering that if they are to learn still more about their primary interest, they must read, research and report; and children discovering that learning to qualify means acquiring ability to measure or meter and to compute using whole numbers and common fractions.

The time has come to substantiate claims that the goals of Technology for Children are being achieved. The first objective is to ***aid the child to develop a greater self-awareness – a greater responsibility for his own learning.*** The Individual Pupil Logs kept by the children contain the necessary data. The growth and progress recorded therein are the best testimony of the achievement of this objective by each child.

An important part of maintaining the log is writing regular reports as summaries or abstracts of the activities and learning. These summaries are accurate indicators of progress and serve as excellent guides in parent-teacher conferences.

The second objective is to aid the child to ***develop a greater understanding of technology and the world-of-work.*** Once again, the evidence is in the log with the additional advantage that this document is a record of the individual's actions, achievements, and successes in performance language. Maintenance of logs conforms to the spirit of behavioral objectives if not to the letter.

It should be said, that the best part of the log is its ability to enable a teacher to provide each child with a feedback loop which helps the child to make specific individual progress. Individualized teaching-learning is made a great deal easier to achieve.

The third objective of Technology for Children is to ***enhance learning in the traditional areas of math, science, language arts and social studies.***

This objective has been placed in third position, because it is least verifiable in a short period of time. We all know that elementary teachers do a fine job of motivating children to learn. Comparing the efforts of a teacher who is learning to employ the new process of integrating Technology for Children (T4C) into the traditional curriculum with a fellow teacher who is not so distracted does not promise to be too fruitful an endeavor, at least, in the earlier stages of comparison. However, the pre- and post-test of matched pairs is a design of good statistical stature according to Dr. Po-yen Koo, Director of Evaluation, Division of Vocational Education, and should be rather easy to do. The intent of this design is to show that nothing is lost in academic achievement by the addition or integration of T4C into the curriculum.

First, select T4C teachers who rate well as implementers of T4C. Record on a sheet (for each section of the test) the numerical designation of each student in the experimental or T4C class together with abbreviation for sex and his I.Q. The I.Q. can be any standardized test for this purpose and is only used as a base reference. Record the pre-test scores (Iowa-Basic Skills-Stanford Achievement, or whatever is customary). This pre-test could have been administered during the spring of 1971 or early in the fall of 1971. Arrange to administer the post-test during the spring of 1972.

With the assistance of the principal or superintendent, select a teacher(s) of comparable ability who does not use T4C, but whose students have participated in the same I.Q. test and have taken the same pre- and post-tests. Select as "matched" those pairs of boys and girls whose I.Q.'s are within five points of one another. Notice that not all of the students can be used – only those who are part of a matched pair. The resultant data can be most effective with the local Board of Education in making a case for budget appropriations.

HIGHLIGHTS OF 1971

JANUARY "Emphasis on the Child" by Dr. Fred J. Dreves, Jr., Director of Technology for Children Project was published in the January 1971 issue of *MAN / SOCIETY / TECHNOLOGY.*

Asbury Park and Ocean Township Public Schools jointly sponsored a Technology for Children Workshop for sixty teachers.

FEBRUARY Three graduate-credit college courses in Technology for Children were conducted in the three career development pilot cities.

The February 1971 issue of *IAVE* published an article by Dr. Fred J. Dreves, Jr., Director entitled, "An Episode is Fun Learning."

Robert A. Woodford, an Assistant Secretary with the New Jersey Manufacturers Association authored an article dealing with Technology for Children, "Classrooms: Tooling Up." in *New Jersey Business.*

APRIL The second annual Technology for Children Spring Conference at the Sheraton Motor Inn in Bordentown, New Jersey was attended by over 100 teachers. Highlights of the day-long session were reviews of the career development projects.

(continued)

(1971 concluded)

The Grade Teacher magazine in the April 1971 issue published an article explaining Technology for Children entitled, "Occupational Orientation Means Work for You."

MAY Mayors with their Superintendents and Board of Education Presidents from 22 New Jersey cities visited the Technology for Children Schools in Camden, New Brunswick and Rahway.

JUNE An up-to-date tape/slide program of Technology for Children was prepared for distribution for Technology for Children presentations.

JULY The Project received a second Education Professions Development Act Grant to train and support 56 new Technology for Children Supervisors.

AUGUST Two, one-week Education Professions Development Act Workshops were conducted during the week of August 16th and 23rd at the Robert Morris School in South Bound Brook for forty elementary supervisors.

Richard B. Harnack, Assistant Director of the Technology for Children Project staff and Mrs. Mary Rehfuss, third grade teacher, Livingston School, New Brunswick conducted a workshop from August 2 to August 5 for 24 Milford, Delaware elementary teachers. This fall, the elementary teachers will begin implementing Technology for Children as the kindergarten to grade four phase of their career development program.

Mrs. Joan Errickson, a fifth grade Technology for Children teacher in Lawrence Township assisted in the direction of the 1970 summer workshop for Washington, D.C. elementary teachers, which was designed to begin the preparation of an elementary level career development curriculum. At the request of the Washington, D.C. teachers in that workshop, Mrs. Errickson returned for several Saturday workshops during the course of the last school year and again as the Director of a five-week 1971 summer curriculum workshop.

The Technology for Children Project staff participated in the Governor's Career Development Program on August 2, 1971 for the Mayors and school administrators of 24 New Jersey Cities.

SEPTEMBER The Technology for Children Project in cooperation with Trenton State College, Glassboro State College and Newark State College conducted ten graduate courses through the State.

OCTOBER The three teams, representative of total system commitment, began to function.

Teacher-Training Teams conducted eight (8) three-day released-time oriented sessions for 217 teachers.

One hundred and eighty-six (186) additional teachers started their orientation at the T4C Resource Center in Edison, New Jersey.

The first regular monthly statewide meeting with the "supervisors" of T4C was held at the T4C Resource Center, Edison, New Jersey.

NOVEMBER Technology for Children conducted a demonstration classroom at the New Jersey Education Association Convention on November 4 and 5 in Atlantic City. Six hundred persons visited the classroom.

DECEMBER Mary Ann McEnroe, Research Associate developed a new monthly publication entitled, "Input." The purpose of the document is to keep T4C supervisors and school administrators abreast of current T4C concerns and matters.

Seventy-five teachers were trained to implement T4C for local school districts who provided all necessary funding themselves.

To aid children in laying the groundwork for occupational self-awareness and assessment relative to abilities and interests. To enhance the learning of children in the areas of technology and world-of-work concepts.

To supplement the learning of children in the fundamental skill areas including math, language arts and social studies.

Dr. Fred J. Dreves, Director
Technology for Children
Division of Vocational Education
New Jersey State Department of Education

Summary

Six years ago, Technology for Children began in New Jersey with twenty-one elementary classroom teachers from seven suburban districts and the two urban districts of Camden and Orange. The project was represented in five New Jersey counties.

	Counties	Districts	Schools	Teachers	Children	Supervisors
1966-67	5	9	10	21	525	9
1967-68	9	17	18	31	775	17
1968-69	10	21	32	56	1,400	21
1969-70	16	36	61	138	3,450	36
1970-71	17	48	98	254	6,675	48
1971-72	21	78	145	577	14,000	78

Today, the Technology for Children Project is involved with 577 New Jersey elementary classroom teachers from eight rural districts, fifty-six suburban districts and the fourteen urban districts of Asbury Park, Bridgeton, Camden, Carteret, East Orange, Montclair, New Brunswick, Newark, Orange, Rahway, Salem, Secaucus, Trenton and Vineland. Technology for Children has participants in each of New Jersey's twenty-one counties. An estimated 14,000 elementary school children have the opportunity to discover, to explore and to take an active role in their learning environment. Abilities and potentials are explored and developed to give each child a better understanding and appreciation of his future career role.

Projections

Working as if they alone are on the job, and praying as if only the Almighty can produce effectively, the staff of T4C hopes to expand T4C as Career Education into every New Jersey elementary school classroom by 1980. To achieve this ambitious goal, as was explained previously, they enlist the aid of elementary school principals as local T4C "supervisors" who strive for a total system commitment through a cooperative action. With top administrative approval and encouragement, they involve elementary school teachers, as well as other ancillary personnel, with them in coordinated actions that are representative of the totality of the educational community, namely, Administration, Teachers and Curriculum.

Extending the concepts of commitment and cooperation, T4C establishes strong viable units not only in the local schools, but at regional and state-wide levels as well. The T4C "supervisors" cooperate in these positions of assumed responsibility not for monetary remuneration, but because of the benefits they are sure will accrue to elementary school education in general and their school in particular.

In spite of the nagging problem of funding, an ever-growing number of school districts choose to initiate T4C with their own fiscal resources asking only for professional assistance in starting and a place in the regional statewide T4C action. Not oblivious to outside assistance, they plan for state aid to help them expand the program in later years.

All "supervisors" are urged, and readily accept the challenge, to help non-T4C teachers undertake hands-on learning activities on a limited or modified basis. They spread the benefits of T4C to a greater percentage of the total school population by encouraging a single activity rather than the swing to a total commitment in one step. For instance, one teacher agreed to have a small group prepare candy for a festivity celebrated by the entire class.

While the matrices and models for the Career Education curriculum are being developed by other agencies, T4C is actively establishing the administrative structure necessary to initiate and augment this ambitious and pretentious move to a more comprehensive education. Curriculum teams at the local level, in particular, await the instructional units which will enable them to achieve greater individual self-awareness against the backdrop of real world-of-work experiences.

In closing, it should be noted again. The rapid expansion T4C has already experienced, and is predicted to experience, is predicated on the efforts and abilities of the ***local school principals and teachers*** rather than on some special gift or effort made by the central staff of T4C. The real strength of the program lies in the manner in which local T4C groups take the idea and readily and effectively adapt it to suit their own needs.

HIGHLIGHTS OF 1972

JUNE The Department of Education of the State of New Jersey, in cooperation with the Career Education Branch, United States Office of Education and the National Education Association is conducting a three-day National-Regional Conference — "Technology for Children." The conference will be held at the Colony Motel in Atlantic City, New Jersey, June 21-24, 1972.

The chief state school officers, the directors of career education, the directors of elementary education and the state supervisors of teacher training from Regions I, II and III will be attending the conference, in addition to twenty-five representatives of N.E.A. This conference immediately precedes the annual meeting of N.E.A.'s Representative Assembly, also to be held in Atlantic City.

The conference is intended to make the participants aware of the Technology for Children philosophy, methodology, and administrative responsibilities for implementing this elementary level career education program.

Richard B. Harnack, Assistant Director, Technology for Children is coordinating the conference and will be assisted by the T4C staff, selected T4C teachers and supervisors.

Carl L. Marburger, Commissioner of Education
Stephen Poliacik, Asst. Commissioner of Education (Acting)
Morton Margules, Assoc. State Dir. of Vocational Education
Harold Seltzer, Dir., Bureau of Occup. Research Development

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